

Kesmas

National Public Health Journal

Quarterly Journal

Increasing Use of Research Findings in Improving Evidence-Based Health Policy at the National Level

(pp. 49 - 52)

The Change in Mental Health Status of Indonesian Health Care Migrant Worker in Japan (pp. 53 - 59)

Husband's Education Level and Alcohol Drinking Habits as Risk Factors of HIV Infection among Housewives in Pati District (pp. 60 - 66)

Implementation of Cigarette Excise Policy against Cigarette Consumption Reduction among Adolescent in Kuningan, Indonesia (pp. 67 - 72)

Effect of Health Education on Community Participation to Eradicate *Aedes aegypti*-Breeding Sites in Buahbatu and Cinambo Districts, Bandung (pp. 73 - 78)

Spatial Analysis of Determinants of Filariasis-Endemic Areas in West Sumatra (pp. 79 - 86)

Maternal Energy Intake at the Sixth Month as Dominant Factor of Exclusive Breastfeeding Success (pp. 87 - 92)

Equity Level of Health Insurance Ownership in Indonesia (pp. 93 - 100)

Spatial Analysis of Determinants of Filariasis-Endemic Areas in West Sumatra

Analisis Spasial Faktor Determinan Area Endemik Filariasis di Sumatra Barat

Masrizal*, Fivi Melva Diana**, Rosfita Rasyid***

*Department of Epidemiology and Biostatistics, Faculty of Public Health, Andalas University, Padang, Indonesia, **Department of Nutrition, Faculty of Public Health, Andalas University, Padang, Indonesia, ***Faculty of Medicine, Andalas University, Padang, Indonesia

Abstract

West Pasaman District and Agam District are filariasis-endemic areas in West Sumatra with prevalence of 12.40 per 100,000 cases and 11.27 per 100,000 cases respectively. This study aimed to determine risk factors associated with the prevalence of filariasis and mapping the vulnerability of the area in West Sumatra. A case control study design was conducted in the West Pasaman District and Agam District. The study used a sample of 74 cases and 74 controls taken by simple random sampling for the case and purposive random sampling for control. Data analysis used univariate, bivariate, multivariate and spatial. The results in Agam District showed that variables associated relation with filariasis (p value < 0.05) were the level of knowledge, plantations, the paddy, the ceiling of the house. The most dominant risk factor was knowledge. Type of vector that was found was *Culex*. While in West Pasaman District, the variable associated with filariasis (p value < 0.05) was the use of mosquito nets, the habit of dressing, marshes, and ceiling. The most dominant risk factor was the ceiling of the house.

Keywords: Filariasis, geographic information system, risk, vulnerabilities

Abstrak

Kabupaten Pasaman Barat dan Kabupaten Agam adalah daerah endemis filariasis di Sumatra Barat dengan prevalensi masing-masing 12,40 per 100.000 kasus dan 11,27 per 100.000 kasus. Penelitian ini bertujuan untuk mengetahui faktor risiko yang terkait dengan prevalensi filariasis dan pemetaan kerentanan daerah di Sumatra Barat. Desain studi kasus kontrol dilakukan di Pasaman Barat dan Agam. Penelitian ini menggunakan sampel dari 74 kasus dan 74 kontrol, diambil secara *simple random sampling* untuk kasus dan *purposive random sampling* untuk kontrol. Analisis data menggunakan univariat, bivariat, multivariat dan spasial. Hasil penelitian di Kabupaten Agam menunjukkan bahwa variabel yang berhubungan dengan filariasis (nilai $p < 0,05$) adalah tingkat pengetahuan, perkebunan, padi, plafon rumah. Faktor risiko yang paling dominan adalah pengetahuan. Jenis vektor yang ditemukan adalah *Culex*. Sedangkan di Kabupaten Pasaman Barat, variabel hubungan dengan filariasis (nilai $p < 0,05$) adalah penggunaan kelambu, kebiasaan berpakaian, rawa-rawa, plafon rumah. Faktor risiko yang paling dominan adalah plafon rumah.

Kata kunci: Filariasis, *geographic information system*, risiko, kerentanan

How to Cite: Masrizal, Diana FM, Rasyid R. Spatial anlysis of determinants of filariasis-endemic areas in West Sumatra. *Kesmas: National Public Health Journal*. 2017; 12 (2): 79-86. (doi:10.21109/kesmas.v12i2.1300)

Correspondence: Masrizal, Dep. of Epidemiology and Biostatistics, Faculty of Public Health, Andalas University, Perintis Kemerdekaan Street No.94, Padang, Indonesia, Phone: +62751-38613, E-mail: masrizal_khaidir@yahoo.com

Received: December 6th 2016

Revised: April 26th 2017

Accepted: September 6th 2017